acidity when at a later date malignant degeneration occurred, and I have seen a patient with ulcer-cancer who refused operation and in whom the acidity actually rose when the growth advanced; Polland and Bloomfield have observed two similar cases. In my Schorstein Lecture I was able to refer to only two instances in which a test meal had been given before as well as after the development of carcinoma associated with achlorhydria, but I have now seen six such cases, in all of which achlorhydria was known to be present before the carcinoma developed, and I have found records of thirty-eight similar cases. Among my cases were two of Addison's anaemia with achlorhydric gastritis in which carcinoma developed four and ten years respectively after the anaemia had been controlled with liver. Numerous similar cases have been recorded by Henning, Saltzman, Wilkinson, Strandell, and others.

I do not know why Professor Morley should quote Danish statistics of the incidence of achlorhydria when there are more extensive and more accurate British figures available—for example, my 2,448 private cases with fractional test meals analysed by Hartfall in 1932. The latter show that the incidence in England between the ages of 50 and 60 is 20 per cent. in females and 16 per cent. in males, as compared with 52 per cent. in Denmark. It is thus fallacious to argue from the Danish statistics that achlorhydric gastritis is not a precursor of cancer of the stomach. In Denmark, as in most Continental countries, the incidence of carcinoma of the stomach compared with its incidence in other organs is far higher than in Great Britain, though the total incidence is the same in all countries. The Anglo-Dutch investigations referred to in my recent Harveian Oration (*Journal*, October 23, p. 783) show how almost all known causes of gastritis are more common in Holland than in England; this, I believe, explains why the incidence of carcinoma of the stomach in Holland is two and a half times greater than in Great Britain, and presumably similar differences explain the greater incidence of achlorhydric gastritis in Denmark.

Cancer of the stomach is more common in men than in women because carcinoma of the breast and uterus occur exclusively in the latter, so that a smaller number of women predisposed to cancer are left to develop cancer of the stomach, the total incidence of cancer being the same in both sexes.

I have written at length in reply to Professor Morley's criticisms of my views on the pathogenesis of carcinoma of the stomach because, if I am correct, it is a preventable disease, and I prefer to preach its prevention rather than accept Professor Morley's pessimistic conclusions, which would leave us with no hope beyond the surgery which can offer nothing better than fourteen survivors among 207 patients.—I am, etc.,

New Lodge Clinic, Windsor Forest, Nov. 15. ARTHUR F. HURST.

The Incidence and Control of Cancer

SIR,—In his Harveian Oration, reported in your issue of October 23 (p. 783), Sir Arthur Hurst discusses the possibility of decreasing the incidence of cancer of the stomach. He says: "The extrinsic causes—gastric irritants of all kinds—however trivial they may appear to be, can be avoided, and it should at least be possible to lower the incidence in the very poor by two-thirds, to bring it down to the level of the incidence in the well-to-do." At first sight it would appear that reduction of the incidence of gastric carcinoma must be a real contribution to the lessening of human suffering; and it is a thankless task to point out that there is no guarantee that the total of such suffering would, in fact, be made less.

Sir Arthur, at an earlier place in his address, made the following statement: "The total incidence of cancer is approximately the same in both sexes, in the rich and the poor, and in all nations." It is a remarkably concise and comprehensive summary of a mysterious and, so far, inexplicable set of facts. Total cancer incidence is therefore unaffected by variations in the incidence at particular sites. The presumption that the reduction, or banishment, of cancer as regards a particular organ would lessen the total number of deaths from cancer is scarcely justified. In fact, the probabilities are against it. To take a somewhat brutal example: we could abolish cancer of the breast by amputating all breasts in infancy—but does anyone really believe that such a measure would decrease general cancer incidence? To come back to the question of decreasing the incidence of gastric carcinoma: if this were followed by an increase of, say, cancer of the throat, humanity would not be a gainer by the change.

All this is but another way of saying that, despite its protean forms, cancer is in some sense a unity—and prophylaxis as applied to particular organs is at best a makeshift, benefiting individuals, perhaps, but not in any sense getting at the root of the trouble. The only real hope would appear to be in immunology. In a paper which unfortunately at the moment I cannot trace the writer proposed—rather daringly—that everyone should be caused to have cancer by means of tar inunction, because there is some evidence that this form of growth, which is readily curable, protects against more serious trouble. There may, of course, be good reasons why this particular suggestion is impracticable; but along some such lines there is hope of progress.—I am, etc.,

London, W.1, Nov. 4. F. HERNAMAN-JOHNSON.

Early Diagnosis of Pregnancy

SIR,—It will no doubt interest Dr. Louis P. Bosman (*Journal*, November 6, p. 939) to know that considerable numbers of claw-toed frogs are at present maintained in London and Aberdeen, and that in Edinburgh we have over a thousand of them now being extensively used in pregnancy diagnosis tests. I know that a large number have been imported into America following upon the visit to Edinburgh of a New York obstetrician. In fact, I understand from the exporters that the demand for these frogs has become so great that it is not unlikely that restrictions may be placed upon their exportation.

I agree that the *Xenopus laevis* test gives results which are remarkable in their degree of accuracy, but I do not agree with Dr. Bosman when he suggests that none of the other tests at present employed is as satisfactory as this particular one. The *Xenopus laevis* test, like the Friedman test, offers very great advantages in those cases in which urgency is a factor, but my considered opinion, which is based upon some 25,000 tests, is that in a very great proportion of instances the Aschheim-Zondek test can provide information of great value which is not revealed by any other. Until some method of breeding and raising these claw-toed frogs in this country has been evolved it seems to me very unlikely that the use of them will become at all widespread. The organization of a laboratory for the maintenance and use of a thousand frogs is a very much more serious matter than is the setting up of one which uses mice or rabbits, which can be obtained locally at all times in considerable numbers. There is no doubt, of course, that for the majority of cases

in South Africa the *Xenopus laevis* is the ideal experimental material. I assure Dr. Bosman that the work of Hogben, Bellerby, and Zwarenstein is as well known in this country and America as it is in South Africa.—I am, etc.,

F. A. E. CREW.

Pregnancy Diagnosis Laboratory, Institute of Animal Genetics, Edinburgh, Nov. 12.

Research in Rheumatism

SIR,—When the Minister of Health laid the foundation stone of the new rheumatism research unit to be built at the Hospital of St. John and St. Elizabeth, the statement that this was the first of such units appeared last week in the Press. This is not the case. The first unit was established by the London County Council at St. Stephen's Hospital in connexion with the St. John Clinic and Institute of Physical Medicine, through the help of Sir Frederick Menzies. This unit has been running for two or three years, and valuable research has been done, in part in conjunction with the Lister Institute, on the relation of acute rheumatism to rheumatoid arthritis.—I am, etc.,

St. John Clinic, Nov. 14. LEONARD HILL.

Disseminated Focal Pneumonia

SIR,—I read with interest Dr. J. G. Scadding's description of disseminated focal pneumonia (*Journal*, November 13, p. 956). It seems not improbable that this title refers to some exceptionally severe cases of a "patch on the lung," a condition which is familiar to school matrons and to every physician who works in general practice.

It usually starts with an "influenzal" attack, with moderate fever, a sore throat, and a somewhat irritating cough. I have seen slight rigors more than once, and pain in the chest is not unusual in the early stages in adults. It is most frequent in children, but it may occur at any age; I have seen it in a septuagenarian. I believe that influenza, septic tonsils, and antral infection are all often associated with the disease. The cough persists and becomes more troublesome, and after an interval of some days an examination of the chest will reveal crepitant rales, suggesting a gradual extension of infection from the throat to the lungs. The crepitations often appear very suddenly, usually at the base of one or both lungs. They extend rapidly until their maximum development is reached. At this stage expectoration appears for the first time, and soon afterwards the patient feels much better, the temperature begins to settle, and the moist sounds in the lungs slowly die away. The disease lasts from one to six weeks, very commonly from two to three weeks. The temperature, which may be hardly raised, rarely reaches more than 101° F. The respirations may be 24 or 26 a minute, but there is none of the breathlessness and cyanosis which even a mild pneumonia will produce. In a severe case the patient is ill, but not very ill, although the complaint is exhausting; after even a minor attack convalescence is often slow. The sputum, examined at the request of anxious relatives, shows no unusual organisms. I have never suggested an *x*-ray examination of the chest, partly because the resulting pictures would certainly frighten everybody. Rest in bed in a warm room and a bottle of paregoric are all that is required. The loss of sleep caused by the irritating cough in the early stages is the only symptom which really needs attention.

Dr. Scadding's observations provide interesting information about a disease which does not appear in our textbooks. In my opinion, however, it would be in the highest degree unfortunate if the dread word "pneumonia" were to become associated with a complaint which runs a benign course and in which complications must be at least of such rarity that they need not seriously be considered. The absence of dyspnoea, of cyanosis, of profound toxaemia, and in fact of every symptom associated with pneumonia suggests that the pathology of the two diseases is essentially different in spite of the radiological evidence. The old-established term "patch on the lung" may be difficult to translate into Greek or Latin, but I find it less misleading than any other name yet suggested.—I am, etc.,

Woking, Nov. 13. L. G. HIGGINS.

Tuberculosis of the Cervical Glands

SIR,—I hope it is not too late for me to comment on the article on tuberculosis of the cervical lymph glands by Mr. R. Reid and Dr. M. C. Wilkinson in the *Journal* of October 16 (p. 740). The authors described 119 cases of the disease, presuming the causative organism to be the bovine tubercle bacillus on the grounds that (1) history of contact with human tuberculosis was obtained in only 16 per cent. of their cases; and (2) other observers have found the bovine bacillus in percentages of tuberculous cervical adenitis ranging from 90 in Scotland to 65 in England. As to the former it is unusual for the most painstaking search to establish such contact in more than one-third of any form of tuberculosis, even in regions where bovine infection has been wholly eliminated. Figures in the neighbourhood of 16 per cent. might well be expected where intensive family study is not stressed—it was stated that "in twenty-five cases no note was made." The figures under (2), I believe, are largely derived from typing experiments performed twenty to twenty-five years ago on relatively few highly selected groups of cases. I further believe that if repeated to-day they would reveal a vastly different proportion of bovine infection. Not only has the health of our herds improved—though, to our shame, it is still an international reproach—but pasteurization has become widespread, and much more milk is now boiled before consumption in the home.

The authors next suggested that the tonsil as a frequent portal of entry, which is generally acknowledged, was predisposed to the invasion of tubercle bacilli by previous attacks of tonsillitis. Their grounds for this assertion, which has often been made but never in any way substantiated, lay in the fact that eighty-five of their 119 patients "had a history or signs of tonsillar disease," and thirty-one of these had had tonsillectomy. This figure, of course, means nothing unless it is found to vary significantly from that in similar patients not suffering from tuberculous cervical adenitis. One would suppose that many of the latter might also admit to occasional sore throats, a malady common in England.

The third statement which I would question was the conception of cervical lymphadenitis as a localized, benign form of tuberculosis, because none of the 119 cases showed evidence of spread or generalization. No mention was made of serial chest *x*-ray films; nor is it clear for what period observation of the patients was continued. It is a fact that, though scrofulous children seldom die, a certain proportion of them do in late adolescence or in adult life develop pulmonary tuberculosis. This proportion probably varies in different localities, but among my own series on Tyneside, of 482 consecutive patients with phthisis, forty-four, or 9 per cent., gave an unequivocal history of previous tuberculous cervical lymphadenitis. In the same district tuberculous cervical adenitis in adults is frequently accompanied by pulmonary tuberculosis, which is not particularly benign in character.—I am, etc.,

BRIAN C. THOMPSON, M.D.,
Dorothy Temple Cross Research Fellow in Tuberculosis.

New York, Nov. 2.